

doubt that this is what was used. These shrews are very common in the yard from which the wasps collected material.

It is not clear under what stimuli these wasps do, or do not, blacken a lid, but all the above cells were in a disused wooden fitment in a not very well-illuminated bath-room.

This faeces-using habit makes *C. bengalense* a possible vector for diseases of those insectivorous vertebrates which prey upon them.

GENETICS AND BIOMETRY LABORATORY,
GOVERNMENT OF ORISSA,
BHUBANESWAR 3,
October 1, 1963.

S. D. JAYAKAR
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20. THE INDIAN HIVE BEE *APIS INDICA* FABR.
(HYMENOPTERA) AND *SAPINDUS EMARGINATUS* VAHL
WITH A NOTE ON *ACARAPIS WOODI* (RENNIE)
(ACARINA)¹

Storey (1890) reported that honey bees (*Apis indica* Fabr.) were attracted by the blossoms of *Lapindus emarginatus* (= *Sapindus emarginatus* Vahl?) and after drinking the nectar died in large numbers at Oodeypore. This has not been queried by any subsequent observer. It is therefore of interest to mention that honey bees do gather honey from this tree, and that a sample of such honey was exhibited by the Entomology Division of the Andhra Pradesh Agricultural Department at the World Agricultural Fair, New Delhi.

The latter part of the observation made by the author is also of interest, namely: 'the effect produced appears to be that of a powerful purgative and there are now numbers of bees buzzing about on the ground unable to fly'. The symptoms described are like those produced by the scutacarid mite, *Acarapis woodi* (Rennie).

Baker *et al.* (1952) state that *Acarapis woodi* (Rennie) is the cause of 'Isle of Wight' disease found in Europe. The mites harbour in the tracheal tubes and cause the death of the host, death being due to: (1) the parasite living upon the host fluids and causing active injury, or (2) possibly, toxic secretion, or (3) mechanical stoppage of the tracheae which prevents air from reaching the individual organs or cuts off the air supply to the nerve centres that control the bee's activities. Recently, Singh (1957) recorded this disease in India in Kulu and Kangra valleys and Simla Hills. He observes that a number

¹Communicated by Dr. K. K. Tiwari, Zoological Survey of India, Calcutta.

of parasitised bees come out of the hive on a warm day, particularly after a cold and rainy spell and fail to return to the hive, as they are unable to fly and merely hop about. They crawl up blades of grass and form small groups. The front and hind wings get unhooked and have a 'K' wing appearance. The abdomen gets distended. The inside and outside of the hive and the ground in front of its entrance are plastered with yellow faeces indicating dysentery. The mites harbour in the anterior thoracic tracheae, which appear either bronzed or brown. He says that it has still to be ascertained whether the disease is already widespread in distribution and has assumed an endemic status or is only a recent introduction in this country.

I was recently in charge of examining the several hundreds of randomised samples of honey bees from different districts of Andhra Pradesh to find out the incidence of this disease in that State. Different methods of dissection were tried, but the one described below was found to be the most useful. A microscalpel is made out of a triangularly-cut edge of a new razor blade, fixed in a match-stick or discarded camel-hair brush. The specimen is decapitated a little below the neck. Another cut is made a little above the petiole and the sectioned thoracic part is transferred to a clean cavity block containing sterilised water. The contents of the thorax, i.e. muscles, gut, etc., are removed with the help of a fine forceps (watch repairer's NN and BB were used) under a stereoscopic microscope. This leaves the body wall with the tracheal tubes *in situ* for examination. With a little practice the method will be found quite comfortable. No instance of the mite was found.

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ZOOLOGICAL SURVEY OF INDIA,

34, CHITTARANJAN AVENUE,
CALCUTTA 12,

May 6, 1963.

K. V. LAKSHMINARAYANA

REFERENCES

- BAKER, E. W. & WHARTON, G. W. (1952) : An introduction to Acarology : 163. Macmillan & Co., New York.
- SINGH, S. (1957) : Acarina disease in the Indian Honey-bee, *Apis indica* F. *Indian J. Ent.* 18 (4) [1956] : 458-9.
- STOREY, T. H. (1890) : Bees destroyed by *Lapindus emarginatus*. *J. Bombay nat. Hist. Soc.* 5 (4) : 423.